

IN THE CLAIMS

Claims 1-7 cancelled.

8. (new) A method of cooking using a cooking medium that is used over a number cooking cycles, wherein the cooking medium is newest at cooking cycle 1, and is older at cooking cycle n , the method of cooking comprising the following steps:

loading a food item into the cooking medium;

heating the cooking medium to a temperature T_c that is dependent on the number of cooking cycles of the cooking medium, the subscript c in T_c being the number of cooking cycles the cooking medium has been through from the first to the n th, T_1 being the temperature of the cooking medium at cooking cycle 1, and T_n being the temperature of the cooking medium at cooking cycle n ;

controlling with a controller the heating of the cooking medium through cooking cycles, wherein T_c is greater than T_{c+1} .

9. (new) The method according to Claim 8, wherein T_n is the reference temperature of the cooking medium, the controller compensating for the introduction of a new cooking medium by adjusting the cooking cycle temperature T_c for each cooking cycle to be greater than or equal to the reference temperature T_n to provide a uniformity of food item color over n cooking cycles using the same cooking medium.

10. (new) The method according to Claim 8, further comprising the step of programming the controller with a program to control the heating of the cooking medium through the cooking cycles.

11. (new) The method according to Claim 8, wherein T_n is the reference temperature of the cooking medium, the controller compensating for the introduction of a new cooking medium by adjusting the cooking cycle temperature T_c for each cooking cycle to be greater than or equal to the reference temperature T_n ,

wherein for cooking cycles c from 1 to 30, the difference between T_1 and T_{30} is a temperature beginning at approximately 10°F over T_n and falling to approximately 3°F over T_n .

12. (new) The method according to Claim 11, wherein for cooking cycles c from 31 to 100, the difference between T_{31} and T_{100} is a temperature beginning at approximately 3°F over T_n and falling to approximately 2°F over T_n .

13. (new) The method according to Claim 12, wherein for cooking cycles c from 101 to 1000, the difference between T_{101} and T_{1000} is a temperature beginning at approximately 2°F over T_n and falling to approximately 0°F over T_n .

14. (new) A method of cooking using a cooking medium that is used over a number cooking cycles, wherein the cooking medium is newest at cooking cycle 1, and is oldest at cooking cycle n , the method of cooking comprising the following steps:

loading a food item into the cooking medium;

heating the cooking medium to a temperature T_c that is dependent on the number of cooking cycles the cooking medium has been through, the subscript c in T_c being the number of cooking cycles the cooking medium has been through, T_1 being the temperature of the cooking medium at cooking cycle 1, and T_n being the temperature of the cooking medium at cooking cycle n ;

controlling with a controller the heating of the cooking medium through cooking cycles, wherein T_c is greater than or equal to T_{c+1} .

wherein T_n is the reference temperature of the cooking medium, the controller compensating for the introduction of a new cooking medium by adjusting the cooking cycle temperature T_c for each cooking cycle to be greater than or equal to the reference temperature T_n ,

wherein for cooking cycles c from 1 to 29, the difference between T_1 and T_{29} is a temperature beginning at approximately 15°F over T_n and falling to approximately 4°F over T_n ;

wherein for cooking cycles c from 30 to 99, the difference between T_{30} and T_{99} is a temperature beginning at approximately 3°F over T_n and falling to approximately 2°F over T_n ; and

wherein for cooking cycles c from 100 to 1000, the difference between T_{100} and T_{1000} is a temperature beginning at approximately 2°F over T_n and falling to approximately 0°F over T_n .

15. (new) A method of cooking using a cooking medium that has temperature stratification, wherein T_{desired} is the desired cooking temperature of the cooking medium, the method of cooking comprising the following steps:

sensing the actual cooking medium temperature T_{actual} ;

providing a controller that directs the heating of the cooking medium, the controller compensating for the cooking medium temperature stratification;

heating the cooking medium to a cooking temperature of T_{desired} plus a stratification offset;

maintaining the temperature of the cooking medium once the actual cooking medium temperature T_{actual} equals the desired cooking temperature T_{desired} plus the stratification offset.

16. (new) The method of cooking according to Claim 15, further comprising the step of sensing agitation of the cooking medium, wherein upon sensing agitation of the cooking medium, the stratification offset is set to zero.

17. (new) The method of cooking according to Claim 15, further comprising the step of monitoring the temperature rate of change of the cooking medium, wherein upon reaching a pre-programmed temperature rate of change, the stratification offset is set to zero.

18. (new) The method of cooking according to Claim 16, further comprising the step of sensing the initiation of a cooking cycle, wherein upon sensing the initiation of a cooking cycle, the stratification offset is set to zero.

19. (new) The method of cooking according to Claim 16, wherein the stratification offset is a rate of temperature change.

20. (new) The method of cooking according to Claim 19, wherein the stratification offset is a rate of temperature change of 10°F per thirty minutes.

21. (new) A method of cooking using a cooking medium, the method compensating the start of a cook cycle on a cooking medium temperature drop rate, the method of cooking comprising the following steps:

- (a) setting a predetermined cooking medium temperature drop rate;
- (b) setting a predetermined cook cycle;
- (c) sensing the cooking medium for temperature drop rates;
- (d) sensing the activation of an operation trigger that identifies a food product has been loaded into the cooking medium, and noting the time of such activation;
- (e) reviewing the sensed cooking medium drop rates of step (c) from a first predetermined amount of time prior to the time of the activation for the predetermined cooking medium temperature drop rate, and, if the predetermined cooking medium temperature drop rate is found, starting the cook cycle at the time of the predetermined cooking medium temperature drop rate;

(f) if the predetermined cooking medium temperature drop rate is not found during the period of time of step (e), then reviewing the sensed cooking medium drop rates for a second predetermined amount of time after the time of the activation for the predetermined cooking medium temperature drop rate, and, if the predetermined cooking medium temperature drop rate is found, starting the cook cycle at the time of the predetermined cooking medium temperature drop rate.

22. (new) The method of cooking according to Claim 21, wherein the first predetermined amount of time is approximately 60 seconds.

23. (new) The method of cooking according to Claim 21, wherein the predetermined cooking medium temperature drop rate is approximately 0.2°F per second for a period of approximately 45 seconds.

24. (new) A method of cooking using a cooking medium comprising the following steps:

providing an initial cook time for the length of time a food item cooks in the cooking medium;

providing a product reference temperature being the preferable cooking medium temperature for the food item;

sensing the cooking medium temperature; and

determining an actual cook time for the food item by adjusting the initial cook time, the actual cook time being the initial cook time multiplied by a non-linear cooking compensation multiplier.

25. (new) The method of cooking according to Claim 24, wherein the non-linear cooking compensation multiplier is the formula A raised to the power $((B \times \Delta_{\text{TEMPERATURE}})/C)$;

where A is approximately 1.41421;

where B is 2;

where C is an exponential growth factor constant related to the particular food item; and

where $\Delta_{\text{TEMPERATURE}}$ is the product reference temperature – the sensed cooking medium temperature.

26. (new) The method of cooking according to Claim 25, wherein C is between 27 and 30.
27. (new) The method of cooking according to Claim 25, wherein C is 50.